AMSAT News Service Weekly Bulletins
Issue: ANS-347
Date: 2015-12-13
Sources: amsat-ans-2015-ans-347-weekly-hyperkitty-16aff4af12.txt

---

AMSAT NEWS SERVICE
ANS-347

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* Upcoming ARISS Commemorative SSTV Event mid to late December
* STMSat-1 has made it to the Space Station
* ATVQ Magazine Documents Mir SSTV History
* Commemorative ANZAC Operations Include Satellite Activation
* UK students to have direct contact with astronaut Tim Peake during Principia
  mission
* NASA TV to cover launch of Tim Peake KG5BVI
* WRC-15: Amateur Bands Unsuitable for Non-Amateur Satellites
* AMSAT Events
* ARISS News
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-347.01
ANS-347 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 347.01
 >From AMSAT HQ KENSINGTON, MD.
DATE December 13, 2015
To All RADIO AMATEURS
BID: $ANS-347.01

Upcoming ARISS Commemorative SSTV Event mid to late December

On November 13, 2000 the crew conducted their first ham radio contacts on ISS
and on December 21, 2000 ARISS conducted their first school contact with the
Burbank School in Burbank, Illinois.

An SSTV commemoration of these historic events is tentatively planned for mid
to late December. It is possible that the transmission mode will be P120 instead of the P180 mode used in the past. This would allow for more

pictures
to be transmitted per pass.

More information at
http://www.ariss.org/
when available

[ANS thanks ARISS & Trevor, M5AKA for the above information]

STMSat-1 has made it to the ISS

Cygnus cargo vessel carrying STMSat-1 has made it to the space station! At 6:19am Wednesday morning, the Space Station robotic arm grasped the ORB-4 cargo
element and mated it to the ISS.

The ISS will be it's home until on or about February 15th. On or about that day, the STMSat-1 will be launched with other CubeSats via a pea pod ejector and launched into low earth orbit. At that point, the timer starts for the programmed deployment of the antennas, the solar array, and the earth observation camera. Godspeed STMSat-1. Please open the link below for additional information on the events of the day.

http://spaceflightnow.com/2015/12/09/u-s-resupply-of-space-station-successfully-resumes/

http://jewelbots.tumblr.com/post/134465599599/how-did-400-grade-school-students-built-a

[ANS thanks AMSAT-UK & Spaceflightnow.com for the above information]

ATVQ Magazine Documents Mir SSTV History

December 12 marked the 17th anniversary of the beginning of the MIR SSTV Station which was active in sending pictures over a period of about 2 years and 4 months. For those interested in this historical event and would like more background information, the Spring, 2015 issue of the Amateur Television Quarterly Magazine (ATVQ), has an article, "How Did Mir SSTV come into Existence?"

Back issue copies of ATVQ and cyber copies of the article are available on-line at
http://www.atvquarterly.com/
or by contacting ATVQ via e-mail at
WA6SVT(a)aol.com.

[ANS thanks Farrell Winder, W8ZCF, for the above information]

Commemorative ANZAC Operations Include Satellite Activation

The ANZAC 100 program has entered its "last hurrah" phase, with plenty of on air action now as ANZAC-suffixed callsigns commemorate the departure from Gallipoli on December 20, 1915.

The multi-mode event by VI3ANZAC is in full swing, headed by Tony Hambling VK3VTH.

In honor of the Royal Australian Navy Bridge Train, a large team lead by Mike Charteris VK4QS is being heard through VI4ANZAC.

In the west VI6ANZAC organized by Chris Grice VK6PII has members of the Ham College. The major operations are this weekend at the RAAF Museum Bull Creek in the Cobra Helicopter display, and next weekend at the Ham College new shack in a scout hall. Chris VK6PII advises that VI6ANZAC will be on HF using SSB and sometimes CW, and plans to activate an FM satellite as well.

While VI8ANZAC is now on air, and is to finish at the Charles Darwin National Park with Stuie VK8NSB and Rowan VK8RD, heard on HF using SSB & CW.

More details of each of these events are on the WIA website, wia.org.au

On next week's broadcast we will conclude with the special closing address from the WIA President, Phil Wait VK2ASD. That is expected to talk about the significance of the ANZAC legend, and the highly successful WIA ANZAC 100 program that began with pre-cursors at Queenscliff, Darwin and Albany.

These have been 50 events in the past eight months, joined by commemorative callsigns in Turkey and Belgium.

Now the ANZAC-suffixed callsigns "last hurrah" on air until December 20, are working the world.

[ANS thanks the VK1WIA-news from the Wireless Institute of Australia for the above information]

UK students to have direct contact with astronaut Tim Peake during Principia
mission

Working with the UK Space Agency, ARISS (Amateur Radio on the International Space Station) is giving a number of UK schools the opportunity to speak directly to Tim Peake, the first British ESA astronaut, during his mission on
board the International Space Station (ISS). This will enable live interaction
between pupils and Tim and is anticipated to be one of the highlights of the Principia STEM outreach program.

During his 6 month mission to the ISS, starting in December 2015, Tim will be
undertaking a wide range of science experiments, some of which have been designed by students from around the UK. Additionally he has committed to take
part in a large range of educational outreach activities with schools and

colleges around the country.

Jeremy Curtis, Head of Education at the UK Space Agency, said:
“Both Tim’s space mission and amateur radio have the power to inspire young people and encourage them into STEM subjects. By bringing them together we can
boost their reach and give young people around the UK the chance to be involved
in a space mission and a hands-on project that will teach them new skills.”

The pre-arranged schools contacts will take place between January and April 2016 and students will be able to put a number of questions directly to Tim using amateur radio VHF and UHF radio equipment specially installed at the school for the occasion.

The 3.8 meter dish owned by Satellite Applications Catapult is being loaned to
the project to track the ISS and will ensure real time video will be available
during the schools’ contacts scheduled for early next year. The dish is almost
in the shadow of the 29 meter dish “Arthur” built in 1962 to receive the first
transatlantic television signals from the Telstar-1 spacecraft.

For Tim Peake’s mission, the ARISS team of licensed UK Radio Amateurs is planning a world first by also receiving live video from the ISS during the contact. Using the HamTV transmitter, which has recently been commissioned on
board the ISS, Tim will be the first astronaut to use this equipment during a
two way schools contact.

As well as building a vehicle based receive system, which will be installed at
the school on the day of the contact, the team recently visited Goonhilly Earth
Station in Cornwall to commission a dish to receive the 2.4 GHz HamTV transmissions from the ISS.

During the contact at the schools the ARISS team will be providing information
displays on the ISS position and have webcams showing both the local and Goonhilly dishes as they track the ISS.

The hosting schools will be organizing presentations and displays before and after the contact and the ARISS team will be providing a live web cast of all
the day’s events including the actual contact with Tim Peake.

The live event webcast will be hosted by the British Amateur Television Club (BATC) on their web streaming service at
https://principia.ariss.org/live/

The ARISS program is designed to maximize the impact of the Principia Mission outreach activities. It will directly engage students with media and communication technologies with the goal of inspiring them to pursue careers in
Science, Technology, Engineering and Maths.

UK Space Agency Principia site
https://principia.org.uk/

School Shortlist for Tim Peake Space Station Contact

http://amsat-uk.org/2015/07/14/school-shortlist-tim-peake-iss/

NASA TV to cover launch of Tim Peake KG5BVI
http://amsat-uk.org/2015/12/08/nasa-tv-to-cover-launch-of-tim-peake-kg5bvi/

[ANS thanks UK Space Agency, ARISS, & AMSAT-UK for the above information]

NASA TV to cover launch of Tim Peake KG5BVI

The next three crew members bound for the International Space Station are set
to launch on Tuesday, December 15. NASA Television will provide full coverage
of the launch beginning at 10:00 UT.

UK astronaut Tim Peake KG5BVI, along with Yuri Malenchenko RK3DUP and Tim Kopra KE5UDN, will launch from the Baikonur Cosmodrome in Kazakhstan at 11:03
UT (5:03 p.m. Baikonur time) for a six-month stay on the orbital complex.

The three will travel in a Soyuz spacecraft, rendezvous with the space station
and dock to the Rassvet module at 17:24 UT NASA TV coverage of docking will begin at 16:45 UT.

The hatches between the Soyuz and space station will be opened at about 19:25
UT, and the newly arrived crew members will be greeted by Expedition 46 Commander Scott Kelly of NASA and Flight Engineers Sergey Volkov RU3DIS and Mikhail Kornienko RN3BF of Roscosmos. NASA TV coverage of the hatch opening will begin at 19:00 UT.

Kelly and Kornienko will return in March 2016 with Volkov after spending a year on the station collecting valuable biomedical data that will improve our
understanding of the effects of long duration space travel and aid in NASA’s journey to Mars.

Together, the Expedition 46 crew members will continue the several hundred experiments in biology, biotechnology, physical science and Earth science currently underway and scheduled to take place aboard humanity’s only orbiting
laboratory.

For the full schedule of prelaunch, launch and docking coverage, visit:
http://www.nasa.gov/nasatv

Follow Tim Peake KG5BVI on Twitter at
https://twitter.com/astro_timpeake

Follow the space station crew members on Instagram and Twitter at:
http://instagram.com/iss
and
http://www.twitter.com/Space_Station

[ANS thanks NASA, ARISS, & AMSAT-UK for the above information]

WRC-15: Amateur Bands Unsuitable for Non-Amateur Satellites

The World Radiocommunication Conference (WRC) held in Geneva during November 2015 has recommended an agenda for the next WRC, to be held in 2019, to the Council of the International Telecommunication Union (ITU). One of the agenda
items is of particular interest to the small-satellite community.

Agenda item 1.7 for WRC-19 reads: “to study the spectrum needs for telemetry,
tracking and command in the space operation service for non-GSO satellites with
short duration missions, to assess the suitability of existing allocations to
the space operation service and, if necessary, to consider new allocations, in
accordance with Resolution COM6/19 (WRC-15).”

Resolution COM6/19, which eventually will be given a new number, specifies the
frequency ranges that may be considered for possible new allocations. They are
150.05-174 MHz and 400.15-420 MHz.

One of the factors that the conference considered in deciding on these particular frequency ranges was “that some non-amateur satellites have used frequencies for telemetry, tracking and command in the frequency bands 144-146
MHz and 435-438 MHz which are allocated to the amateur-satellite service, and
that such use is not in accordance with Nos. 1.56 and 1.57.” Those two provisions of the ITU Radio Regulations define the amateur and amateur-satellite services respectively.

The International Amateur Radio Union welcomed the exclusion from consideration of all existing frequency allocations to the amateur and amateur-
satellite services. IARU President Tim Ellam, VE6SH, observed: “This is an excellent result for the amateur services and clearly shows that non-amateur satellite constructors need to consider spectrum other than the very limited and congested segments that are available for amateur satellites at 144 MHz and
435 MHz.”

[ANS thanks IARU, ARRL, & AMSAT-UK for the above information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations,

forums, and/or demonstrations).

*Saturday, 9 January 2016 – Thunderbird Hamfest 2016 in Phoenix AZ

*Friday and Saturday, 19-20 February 2016 – Yuma Hamfest and 2016 ARRL Southwest Division Convention in Yuma AZ

*Saturday and Sunday, 12-13 March 2016 – ScienceCity science fair, on the University of Arizona campus in Tucson AZ

*Saturday, 19 March 2016 – Scottsdale Amateur Radio Club Spring Hamfest 2016 in Scottsdale AZ

*Saturday, 26 March 2016 – Tucson Spring Hamfest in Tucson AZ

[ANS thanks AMSAT-NA for the above information]

ARISS News

Successful Contacts

* A direct contact via 8N2YAYOI with students at Yayoi Elementary School, Yatomi, Japan was successful Fri 2015-12-04 09:25:46 UTC 57 deg. Astronaut Kimiya Yui KG5BPH and answered 14 questions prepared by students.

Watch a video of the contact which was conducted in Japanese at http://www.ariss.jp/yatomi/8n2yayoi.wmv

* The telebridge contact with students at Dragonskolan, Umeå, Sweden was rescheduled via LU1CGB for Fri 2015-12-04 10:15:01 UTC 72 deg. Astronaut Kjell
Lindgren, KO5MOS was able to answer 17 prepared questions for students.

The contact was recorded by the school. View it on the school website at: http://www.skola.umea.se/dragonskolan

Dragonskolan is one of the biggest upper secondary schools in Sweden and is located in central Umeå. Currently hosting 1820 students aged 16-19 and 300 staff; it has recently been renovated to meet modern needs in a stimulating learning environment.
At Dragonskolan, we have an ethos where we believe we can offer our students three meaningful and enjoyable years. Our core values are “open and bright”, referring not only to the physical surroundings but also to the social climate.
Dragonskolan is the biggest meeting place for young people in Umeå,
A wide range of 3 year programs, college preparatory and vocational, are offered here, ranging from natural science to humanities and technological science.
At the core of the school is the Dragonskolan Technology Center where everything is taught from industrial welding technology to electronics, automation, computer science, CAD and much more.
With its close ties to the industry, the school keeps in pace with the latest
industrial technology ensuring the students get the best education available within their chosen field.

* A direct contact with students at an event titled, “the development of Gagarin from Space”, was sponsored by the Polytechnic Professional

Councils of
the City of Grozny, Russia on Sat 2015-12-05 16:25 UTC. The cosmonaut
for the
contact was Sergey Volkov RU3DIS.

* A telebridge contact via LU1CGB with students at Konstanty Ildefons
Galczynski Junior High School, Swietajno, Poland, was successful
Tue 2015-12-08 08:19:31 UTC 62 deg. Astronaut Kjell Lindgren KO5MOS
answered
14 questions prepared by students.

An audio recording may be heard at:
http://www.ariss.org/news.html

Konstanty Ildefons Galczynski Junior High School in Swietajno,
attended by approximately 170 pupils (aged 13-15), is situated in a
picturesque Land of a Thousand Lakes in Szczytno County (Warmian-Masurian
Voivodeship, in the northeastern part of Poland. The school consists of
seven
forms and it employs twenty well-qualified teachers. Mazurian Amateur Radio
Club SP4YWM has been established here and it functions with the number of
seventeen school members (among which there are three primary school pupils
and one pre-school girl, all from Swietajno).

In preparation for the amateur radio contact with the ISS, the students
with
the guidance of their teachers improved their English, got familiar with
the
life and work on the ISS. They had a great opportunity to learn everyday
English in order to ask an astronaut questions during the ISS contact as
well
as the specialized language of science to visit space agencies pages. The
students learned geography with the use of modern technologies and
photographed
the Earth from the camera on board the ISS (EarthKAM). The school
cooperated
with the Olsztyn Planetarium to organize an observation. The planetarium
visited Swietajno to accompany one of the school events. Consequently, the
Astronomical Mobile Laboratory called Astrolabium was at the school’s
disposal.
Last year the ARISS participants from Swietajno attended the 4th
Polish-Wide
Conference of Contributors and Sympathisers in ARISS held in the central
part
of Poland, where they focused on interesting topics concerning the ISS and
learned how other Polish schools had prepared for ARISS contacts in the
past.

The pupils also performed an experiment in the near space as a part of the
miniSAT project. They sent peas, bubble wrap and a watch to near space
to the
altitude of about 30 000 meters above the Earth. The conditions differ
significantly between near space and the surface of the Earth: the
pressure is
much smaller, UV radiation is higher and the temperature is below zero
degrees Celsius. People from all over Poland, including the pupils from
Swietajno, took part in it. The balloon used in the event was marked
“CP26”.
The experiment in the near space was possible thanks to ham radio operators
and other volunteers from a non-governmental organization called Copernicus
Project Foundation (near Torun, Poland). Their two flagship projects are
MiniSAT and Near Space Program in Poland and they have organized above 30
balloon flies to the near space since 2005.

In March 2013 the school started public relations activities connected with the ham radio contact between an astronaut on the International Space Station
and the students from Konstanty Ildefons Galczynski School. An official inauguration of the ARISS program in Swietajno had been prepared. TVP Olsztyn,
Radio Olsztyn and other local mass media were present there and took part in
an inaugural lecture on ARISS. As a continuation of EarthKAM program an exhibition of the photographs taken by the students was organized during the
inauguration. Before that, Swietajno primary school pupils (between the ages
of 5 and 12) had been invited to participate in the preparations to the ARISS
contact. As a result, some of them are going to ask the astronaut their questions, together with their older friends from the junior high school.

Upcoming Contacts

>From 2015-12-20 to 2016-01-04, there will be no US Operational Segment (USOS)
hams on board ISS. So any schools contacts during this period will be conducted by the ARISS Russia team.

Watch
http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS, and Charlie, AJ9N for the above information]

---

* Satellite Shorts From All Over

* SpaceX to launch rocket Dec 19, six months after blast

SpaceX on Thursday announced plans to launch its Falcon 9 on December 19, its
first mission since a massive explosion after liftoff destroyed the rocket and
its space station cargo six months ago.
SpaceX CEO Elon Musk wrote on Twitter that the company is preparing for a static fire -- an engine test on the launch pad at NASA's Kennedy Space Center
in Cape Canaveral, Florida -- on December 16, followed by "launch about three
days later."
The Falcon rocket will carry 11 satellites for the US company Orbcomm into low-
Earth orbit, a company spokesman said.
The spokesman did not say when SpaceX planned to begin sending cargo to the International Space Station again.
SpaceX's only competitor in the commercial resupply industry is Orbital ATK, which also suffered a major setback when its Antares rocket exploded after launching from Wallops Island, Virginia in October 2014.

Orbital ATK launched on Sunday its unmanned Cygnus cargo ship to the ISS, this

time aboard a United Launch Alliance Atlas V rocket while it upgrades the Antares, which previously used a reconditioned Ukrainian rocket engine.

The Falcon 9 exploded on June 28, just over two minutes after launching from Cape Canaveral with its Dragon cargo ship loaded with supplies for the astronauts living in space.
Musk said the blast was due to a faulty strut.
The accident was a blow to the California-based company, which was the first commercial outfit to send a cargo craft to space under a $1.6 billion contract
with NASA.
The Falcon 9 rocket that is scheduled to fly December 19 is a new version that
is 30 percent more powerful and designed to improve the controlled landing of
the rocket's first stage, a mission that SpaceX has been attempting to refine
in the hope of one day making rockets as reusable as airplanes.
SpaceX has tried multiple times to land its rocket upright on a floating platform in the Atlantic Ocean, without success.
For this next launch, SpaceX said it plans to attempt a touchdown on land for
the first time.

Amazon founder Jeff Bezos, an Internet entrepreneur who like Musk also owns a
rocket company, announced on November 24 that he had successfully landed his New Shepard rocket after a suborbital flight.
While Bezos touted the achievement, Musk and other experts pointed out that it
would have been much easier to control the landing of a rocket that flies lower
in altitude than the first stage of the Falcon 9.
Once rockets do become reusable, analysts say the practice will save millions
of dollars in equipment and launch costs.

see
http://www.spacedaily.com/reports/SpaceX_to_launch_rocket_Dec_19_six_months_after_blast_999.html

[ANS thanks SpaceDaily.com for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,

Joe Spier, K6WAO
k6wao at amsat dot org